

B.8 SUMMARY

(1) This case study has described the typical 3-5 day shamal pattern discussed in Section 3.1.

(2) The DMSP satellite visible images help to illustrate the indirect path of cold air into the upper Tigris-Euphrates valley. The presence of cold air in this valley area seems important for the triggering of shamals occurring from mid-December through February.

(3) The upper air long wave trough position scalls near the Strait of Hormuz, after the surface cold front which initiates the shamal has been advected away to east. The combination of two factors maintains the pressure gradient over the Persian Gulf and sustains the shamal: (a) lower surface pressure induced to the east of the trough over the Gulf of Oman; (b) the increase of surface pressure over the Arabian Peninsula associated with subsidence in the lower troposphere to the west of the trough.

(4) A convergence cloud band appears over the Gulf of Oman near the end of the shamal. This appearance seems to be associated with converging low level wind flows from the Arabian Peninsula and the Iran-Pakistan mainland.